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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,869	08/05/2003	Richard Hull	B-5187 621136-6	8994

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
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EXAMINER

NGUYEN, CUONG H

ART UNIT PAPER NUMBER

3661

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/635,869

Applicant(s)

HULL, RICHARD /

Examiner

CUONG H. NGUYEN

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/25/05 (the IDS).  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-29 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/25/05 & 1/26/04 & 9/22/03  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. This Office Action is the answer to the IDS dated 1/25/05, which paper has been placed of record in the file.
2. Claims 1-29 are pending in this application.

### Drawings

3. The formal drawings (8/05/2003) are acceptable for examining purposes.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-8, 12-19, 23-26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Professor Naomi et al. of Princeton University's "Virtual Leaders, Artificial Potential and Coordinated Control of Groups" in view of Eberwine et al. (US Pat. 6,133,867).

A. As to claims 1, 6-7, 12, 17, 23, 25, and 29: Naomi et al. teach a method and an arrangement of guiding a user along a path, comprising steps of:

- (a) determining a position of the user relative to the path (see Naomi et al., col.4 lines 31-33);

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(b) determining a location to position an audio beacon (or a transmitter, or a proximity sensor from which beacons appear to emanate, please note further that an audio beacon's characteristic is changing sound levels according to distances) onward from a user's position (see **Naomi et al.**, col. 8 lines 25-28); please note the use of "at least" in part (b) above makes that limitation become "open-ended" (i.e., the claimed beacon/transmitter MAY lies in a direction DIFFERENT from "at least ...").

Naomi et al. do not disclose that virtual leader/beacon has an audio/sound capability.

However, Eberwine et al. disclose a beacon capable of generate a sound signal (see Eberwine et al., Fig.2 "Voice Unit" 400, Fig.4 "Audio Announce" 3620; and claims 1, 10, 14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Naomil., and Eberwine et al. to rendering, through audio output devices carried by the user (i.e., a headphone/a speaker means), an audio transmitted signal at a beacon's location to alarm a user of a proximity area he is traveling into for the advantage of using a human-being important sense to receive audio signals for fast and accurate acknowledgements.

B. Per claims 2, 13, 18, and 24: The rationales and reference for a rejection of claim 1 are incorporated.

Naomi et al., also teach that location of a beacon would be changed (see **Naomi et al.**, col. 2 lines 33-35).

C. Per claims 3-4, and 14-15: The rationales and reference for a rejection of claim 2 are incorporated.

Naomi et al. also suggest that each successive location of a beacon is determined based on a segment onward from a user's current position (see **Naomi et al.**, the abstract, and col. 4 lines 31-33).

**D. Per claims 5, and 16:** The rationales and reference for a rejection of claim 1 are incorporated.

Naomi et al. also suggest about guiding a user to “virtual” locations associated with changing audio beacons (“virtual” positions - see **Naomi et al.**, col. 8 lines 15-28).

**E. Per claims 8, 19, and 26:** The rationales and reference for a rejection of claim 6 are incorporated.

Naomi et al. also suggest a new beacon being successively added in time proximity to the removal of a first beacon, this removal and addition of audio beacons being repeated as a user moves along a path (see **Naomi et al.**, the abstract, and col.8 lines 15-28).

**5. Claims 9-10, 20-21, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Professor Naomi et al. of Princeton University’s “Virtual Leaders, Artificial Potential and Coordinated Control of Groups” in view of Eberwine et al. (US Pat. 6,133,867), and further in view of Derman (US Pat. 6,405,107).**

The rationales and reference for a rejection of claim 6 are incorporated.

Naomi et al. also disclose that beacons are changing positions in a cyclic manner (see Naomi et al., col.8 lines 11-15; and col.9 lines 32-38).

Naomi et al. and Eberwine et al. do not disclose that an audible characteristic of said beacons **is varied** to indicate the order in which they occur along a path.

However, Derman suggests that audio levels/characteristics of a beacon would be varied (see Derman, col. 15 lines 8-14).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Naomil., Eberwine et al., and Derman to suggest an audible characteristic of a beacon is varied to indicate different distances from a target because varying audible level of a signal to indicate a proximity distance has been recognized to be very reliable and helpful by navigators for areas with low visibilities.

**6. Claims 11, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Professor Naomi et al. of Princeton University's "Virtual Leaders, Artificial Potential and Coordinated Control of Groups" in view of Eberwine et al. (US Pat. 6,133,867), and further in view of Gelvin et al. (US Pat. 6,859,831).**

The rationales and reference for a rejection of claim 1 are incorporated.

Naomi et al. and Eberwine et al. do not disclose about locations with no obstruction lie between a user and the audio beacon.

However, Gelvin et al. shows that a line-of-sight coverage to determine a potential obstruction was used (see Gelvin et al., col.59 lines 1-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Naomil., Eberwine et al., and Gelvin et al. to suggest about account for line-of-sight signals with no obstruction in between because using infra-red communication is recognized of having a limited range with obstructions.

### ***Conclusions***

**7. Claims 1-29 are not patentable.**

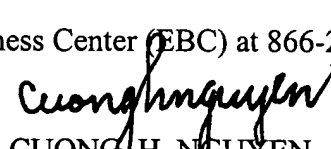
**8. The prior art made of record, which are listed in PTO-892, and not relied upon are considered pertinent to applicant's disclosure.**

The examiner respectfully submits that the pending claims are also obvious from disclosures of:

- Naomi, Optimization and Systems Theory Seminar – 4/27/2001, from <http://www.math.kth.se/optsys/seminar/leonard.html>.
  - Naomi et al., Obstacle Avoidance in Formation, the Proceedings of IEEE ICRA 2003.
  - Ross et al. (“Evaluation of orientation interfaces for wearable computers”);
  - Mirjana Spasojevic et al. (“A study of an augmented museum experience”); and
  - Bederson “Audio augmented reality: a prototype automated tour guide”
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-272-6759. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6759.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
CUONG H. NGUYEN  
Primary Examiner  
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